

FI 750/1500 Series

Phosphate Ester In-Line Flow Indicator

The FI Phosphate Ester (FI PE) Series Flow Indicators are purpose-built for continuous or intermittent monitoring of flow in hydraulic systems that utilize phosphate ester-based fluids, such as those commonly found in aviation ground support equipment (GSE).

With a maximum working pressure of 420 bar (6,000 psi) and compatibility with phosphate ester fluids, these indicators offer reliable and accurate visual monitoring where electrical power is not available or permitted. The large, clear 63 mm (2½") dual-scale dial (L/min and US gpm) ensures fast, at-a-glance readings—ideal for field service, maintenance, and setup of GSE systems.

Designed for unidirectional flow only, the FI Phosphate Ester Series units are rugged and contamination-resistant, making them suitable for demanding environments found in airports and aerospace maintenance operations.

Specifications

Maximum Rated Pressure:	Up to 420 bar, 6,000 psi
Maximum Rated Flow:	Up to 250 L/min, 66 US gpm
Ambient Temperature range:	-30 to 50°C, -22 to 122°F
Compatible Fluids:	Phosphate Ester
Porting:	BSPP, SAE
Material:	Aluminium 2011T6
Body Material:	Mainly Brass
Internal Material:	EPDM
Seal:	
Weight:	
FI750:	1.4 kg, 3.1 lb
FI1500:	3.2 kg, 7 lb

Symbol:

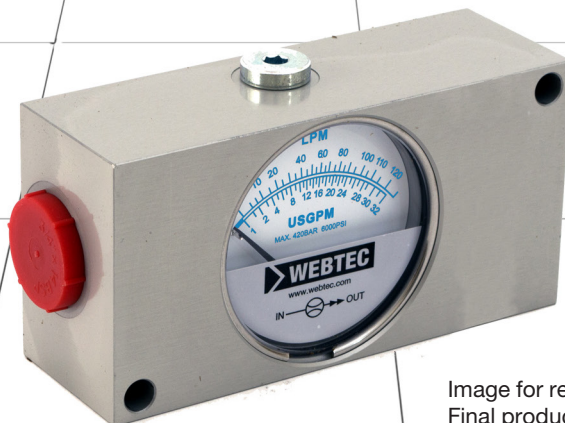
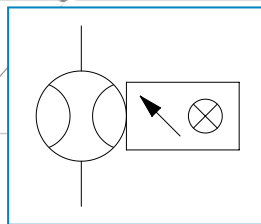


Image for reference only.
Final product may vary.

Make it **BLUE**

Features

- In-Line Flow Indicator for Phosphate Ester Hydraulic Systems
- Accuracy within 4% FSD
- Dual scale (L/min and US gpm)
- Large, clear 63mm (2 1/2") dial
- Rugged construction for demanding field conditions
- Pressure gauge port for additional diagnostic capability
- Optimized for phosphate ester fluid compatibility
- No power supply required

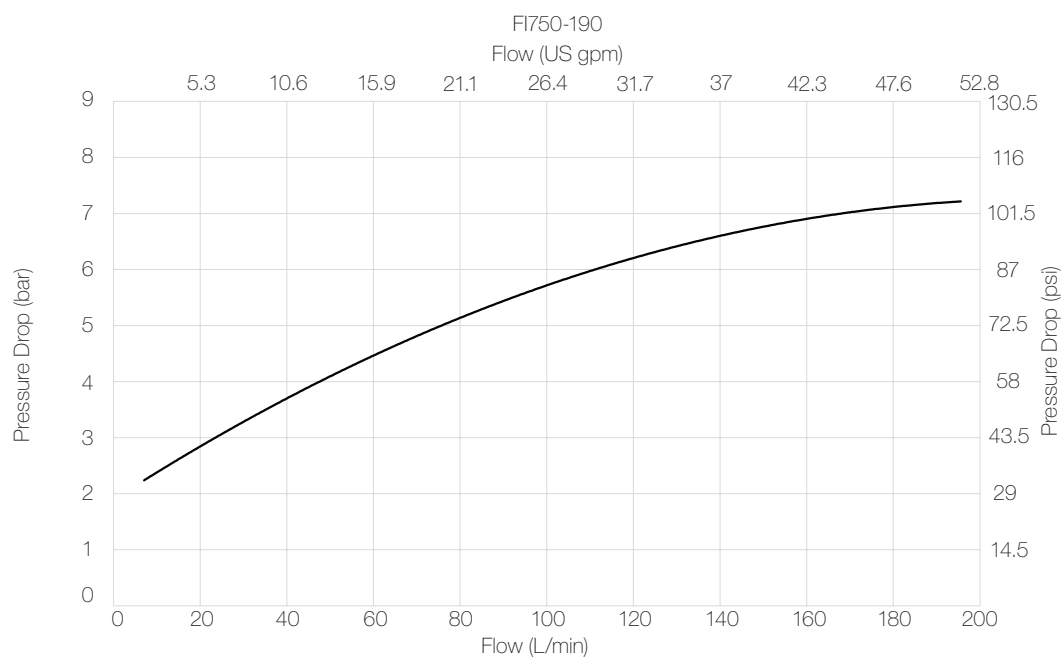
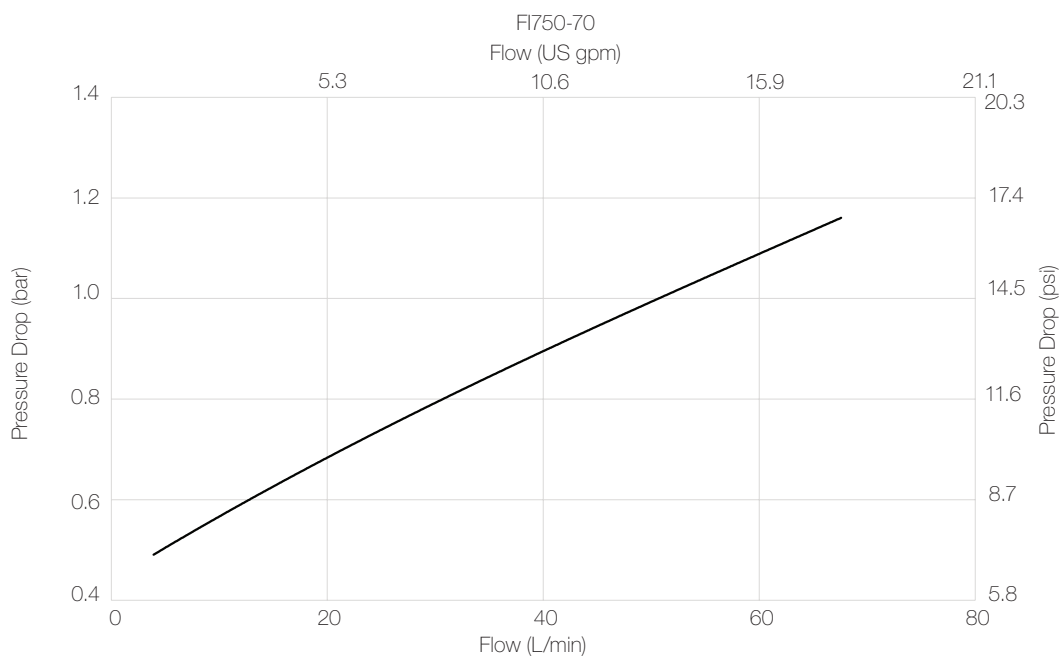
Sales Order Code

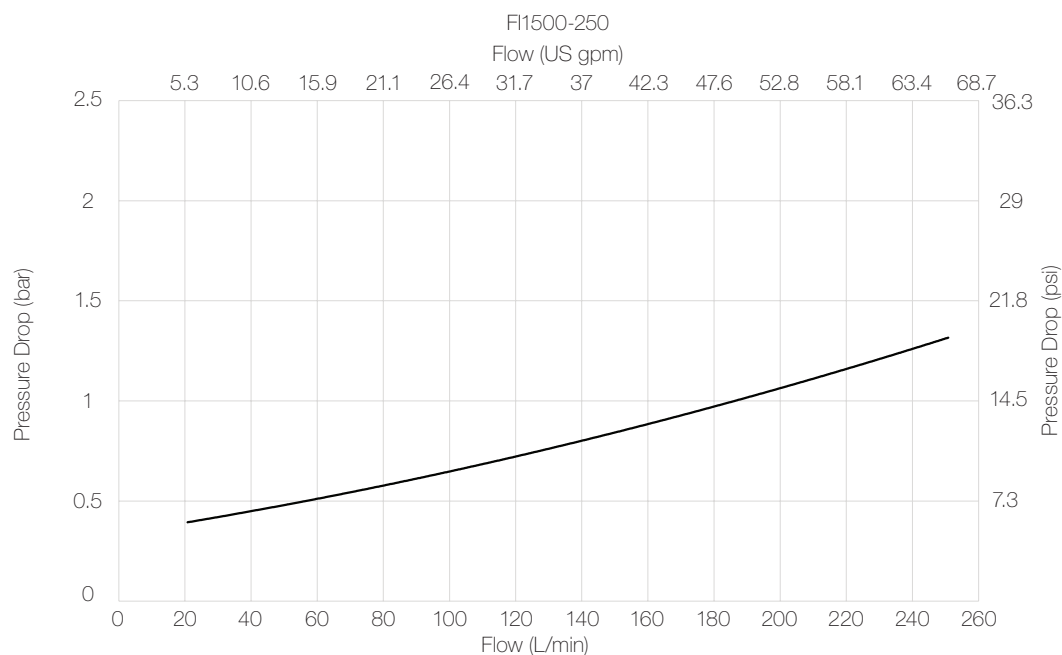
Please contact our technical sales team to discuss any special order requirements.

MODEL NUMBER	CALIBRATED FLOW RANGE		MAIN PORTS	TOP PORTS	MAX RATED PRESSURE
	L/min	US gpm			
FI750-70ABP	4 - 70	1 - 19	3/4" BSPP	1/4" BSPP	420 bar, 6000 psi
FI750-190ABP	20 - 190	4 - 50	3/4" BSPP	1/4" BSPP	420 bar, 6000 psi
FI1500-250ABP	40 - 250	10 - 66	1-1/2" BSPP	1/4" BSPP	350 bar, 5000 psi
FI750-70ASP	4 - 70	1 - 19	1 - 1/16" - 12 UN #12 SAE ORB	9/16" UNF	420 bar, 6000 psi
FI750-190ASP	20 - 190	4 - 50	1 - 1/16" - 12 UN #12 SAE ORB	9/16" UNF	420 bar, 6000 psi
FI1500-250ASP	40 - 250	10 - 66	1 - 7/8" - 12 UN #24 SAE ORB	9/16" UNF	350 bar, 5000 psi

Typical Pressure Drop Curves

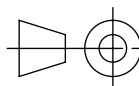
All tests completed using Phosphate Ester oil at 9 cSt



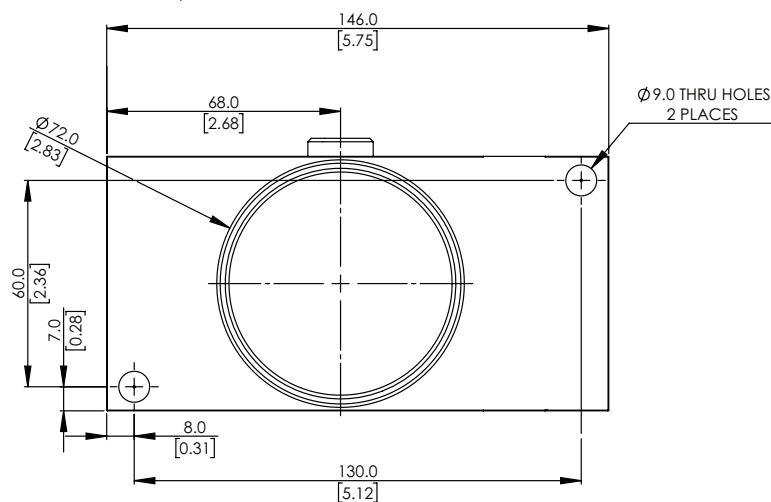
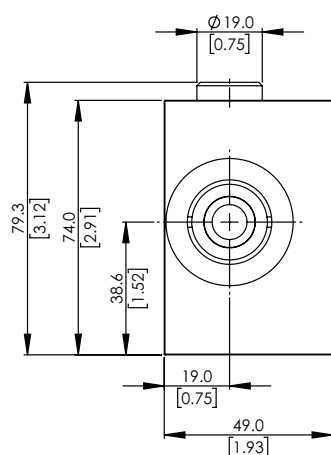


Installation Details

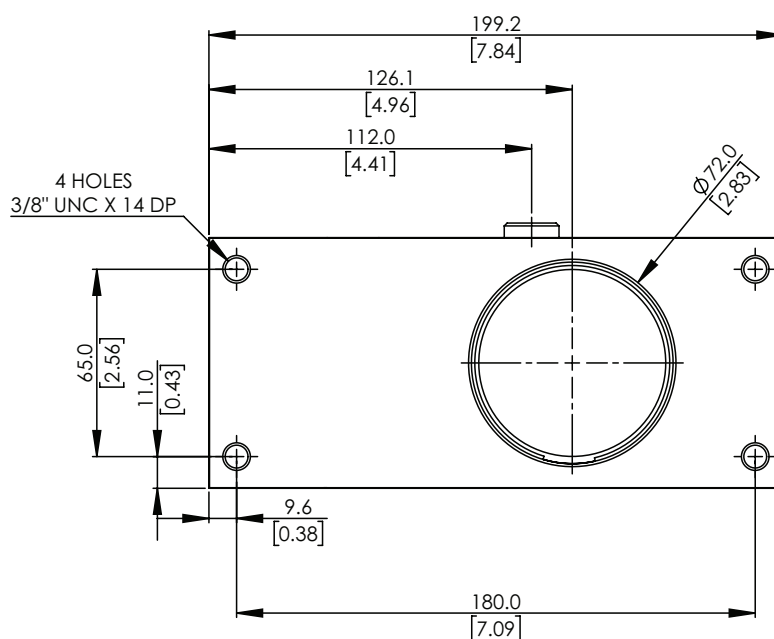
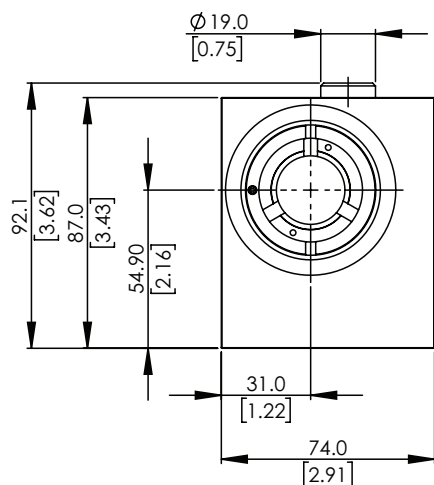
Dimensions in mm [Inches]



FI750



FI1500



Functional Specification

Ambient temperature range:	-10 to 50°C, 14 to 122°F
Flow accuracy:	± 4% of full scale
Compatible fluids:	Phosphate Ester. Other fluids consult sales office.
Fluid Temperature Range:	20 to 80°C, 65 to 176°F continuous use. Intermittently (<10 minutes) up to 110°C, 230°F.

Operation

The FI Phosphate Ester consists of a sharp edged orifice and tapered metering piston. The piston movement is directly proportional to the flow rate and the sharp edge orifice minimises the effects of viscosity. The piston is magnetically coupled to the rotary pointer assembly which registers on a clear 63 mm (2 1/2") scale displayed in L/min and US gpm. The FI Phosphate Ester flow indicators should not be installed in circuits where the flow is reversed.

Service and Calibration

All FI PE units are factory-calibrated using ISO 32 hydraulic mineral oil (28 cSt at 40°C) in accordance with ISO 11158, category HM, to ensure consistency and traceability. Although calibrated with mineral oil, the flow indicator scales are specifically designed for use with phosphate ester fluids, and performance specifications reflect this intended application. Calibration certificates are available upon request; this is a chargeable option.

The recommended service interval is 12 months, with a maximum interval of 36 months. Unit accuracy may be affected by operating cycle, fluid condition, or extended periods between servicing.

Installation

The flow monitor can be mounted in any orientation but may require special calibration (contact sales office).

The unit is designed to panel mount or pipe mount. When panel mounting ensure that rear and bottom faces of the unit are at least 12 mm (1/2") from any ferrous material such as an iron panel or base. The piston contains a magnet that can be affected by close proximity of ferrous material. The front face can be mounted directly to ferrous panels.

The indicator can be connected into pressure or return lines, however, do not reverse flow; the flow indicator may be damaged and will act as a non-return valve.

It is recommended to connect the flow block with flexible hoses 1-2 metres (3-6ft) long. Inlet and outlet connections should always be of a similar bore size to that of the flow block to prevent venturi or constriction effects.

Where repetitive pulsation causes lateral pipe movement against the ports, we recommend the hoses are firmly clamped.

Accessories

Pressure gauge fitted directly into block or remotely connected by micro bore hose, see pressure gauge bulletin.

Webtec reserve the right to make improvements and changes to the specification without notice

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